



**I worked construction for 10 years
before my fall. It shattered my body
and my livelihood.**

Work safely. Use the right equipment.

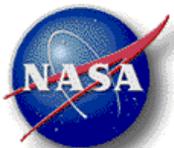


Safety Pays. Falls Cost.
www.osha.gov/stopfalls/

Fall Prevention In Construction

Senior Management ViTS Meeting
July 7, 2014

Russ DeLoach
Safety & Mission Assurance
Kennedy Space Center



Senior Management ViTS – July 2014



John F. Kennedy Space Center

- Building the future of U.S. Spaceflight means significant construction of new facilities and modifying existing ones
- Falls are the leading cause of fatalities and injuries on construction sites (over 200 killed and over 10,000 seriously injured annually)
- OSHA conducted a Fall Prevention in Construction National Stand-down week – June 2-6
 - More than 1 million workers and 25,000 businesses nationwide supported the events
- KSC's significant fall mishaps / close call cases:
 - KSC Roofing Fall Fatality (March 2006)
 - VAB Fall from the 41st Floor mishap (October 2006)
 - Fall from SLS Mobile Launcher close call (September 2009)





KSC Roofing Fall Fatality – March 2006



John F. Kennedy Space Center

Incident:

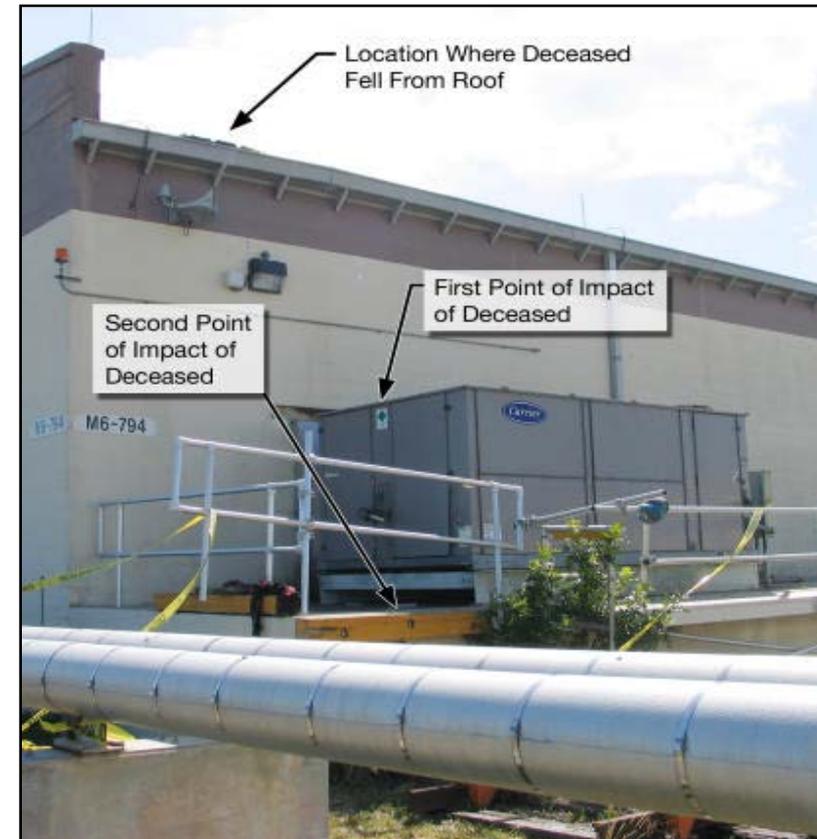
- March 17, 2006, a roofing worker fell (17 feet) from a supply warehouse roof
- Worker died at the hospital of head injuries later that day
- Work being performed: Installing corrugated metal roofing panels

Events Contributing to the Fatal Mishap

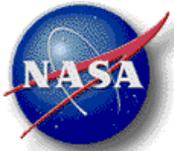
- Workers not properly trained in fall protection
- Working at edge of roof without fall protection
- Only a safety monitor was used
- Safety monitor performed non-safety related work
- Contributing events were all OSHA non-compliances

Lessons Learned and Improvements:

- KSC needed consistent fall protection policies, training, and tracking
 - ✓ Developed minimum fall protection standards
 - ✓ Examined fall protection issues across the Center
- Improved surveillance, reporting, tracking, trending, and corrective action follow-up of construction safety incidents and non-compliances



<http://llis.nasa.gov/lesson/2056>



Vehicle Assembly Building (VAB) Fall from 41st Floor Mishap (Oct 2006)



John F. Kennedy Space Center

Incident:

- Iron workers repairing damage to VAB from the 2004 hurricane season
- Iron worker (IW2) fell about 12 feet from a fixed ladder to a platform below the 41st floor of High Bay 4. IW2 struck another iron worker (IW1), knocking IW1 from the platform into open space.
- A fall of approximately 450+ feet was prevented by the proper use of a personal fall protection system
- Both workers had non-life threatening injuries and received outpatient care



Lessons Learned:

- “Am I Hooked Up?” fall protection awareness training video developed
- Video Quote, “If it wasn’t for those Monday morning safety talks, there is a chance I wouldn’t have been tied off... In all of those toolbox safety meetings, something sunk in enough for me to tie-off.”
- Proper use of fall protection systems “Saves Lives”



[Am I Hooked Up? Video Link](#)

<http://llis.nasa.gov/lesson/5996>



Fall from New SLS Mobile Launcher (ML) Close Call (Sep 2009)



John F. Kennedy Space Center

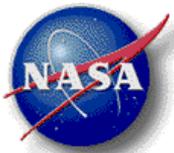
Incident:

- Iron workers were building base of the new Mobile Launcher (ML) Platform
- Self-Retractable Lifelines (SRLs) with newly available “Fall Limiters” were in use for personal fall protection
- An iron worker lost his balance and fell (from ‘A’ deck)
- *The SRL, anchored above his head, stopped his fall in less than 4 feet*
- Worker was saved from a fall of 8 feet to the decking or 30 plus feet to the ground
- Co-workers used a step ladder to rescue the worker who was suspended above the deck and uninjured

Lessons Learned:

- Both the contractor safety manager and the worker who fell briefed / reinforced to the entire site workforce, over the next two days, about the importance of proper personal fall protection
- Proper use of fall protection systems “Saves Lives”





NASA Construction Fall Prevention Summary



John F. Kennedy Space Center

- NASA Fall Protection requirements (NPR 8715.3) cover specific program requirements to include training standards for users, competent and qualified persons
- NASA Contracts require construction contractor comprehensive safety plans that include written fall protection programs and plans when working at heights
- NASA Construction Safety programs are effective and “Save Lives”

